CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/WNo.14/NS/CSR-04/015j/CEMENT/2016-17 Date: 21.04.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. N. Shivananda,** # 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.
*NAME OF THE WORK	:	Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.
REFERENCE	:	BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	18.04.2016
PERIOD OF TESTING	:	18.04.2016 to 21.04.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.50%	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	165 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/WNo.14/NS/CSR-04/015j/SAND-Gradation/2016-17 : 21.04.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N. Shivananda,**
# 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.

*** Name of Work** : Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 18.04.2016

Date of Testing : 21.04.2016

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Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	91.75	90-100	90-100	90-100	95-100
2.36	77.49	60-95	75-100	85-100	95-100
1.18	56.61	30-70	55-90	75-100	90-100
600 Micron	38.14	15-34	35-59	60-79	80-100
300 Micron	15.98	5-20	8-30	12-40	15-50
150 Micron	4.11	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

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Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/WNo.14/NS/CSR-04/015j/AGG/GR/2016-17 : 21.04.2016

TEST REPORT ON COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N. Shivananda,**
# 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.

*** Name of Work** : Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 18.04.2016

Date of Testing : 21.04.2016

CIVIL ENGINEERING TESTING LABORATORY www.civiltechconsultants.com

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.73	95-100	85-100
20	34.94	30-70	0-20
10	13.06	10-35	0-5
4.75	1.90	0-5	-

* Information is furnished by the Customer/Representative

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Remarks : This sample is under Graded specific limits.

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T-2377

Job No.: CTCE/BBMP/WNo.14/NS/CSR-04/015j/CUBE/2016-17 28.05.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer**	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
*** Agency**	: **Mr. N. Shivananda,** # 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.
*** Name of the work**	: Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.
Reference	: BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016
*** Sample ID**	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
*** Grade of Concrete**	: M_{10}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 28.05.2016

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Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.04.2016	28.05.2016	8.251	268.7	11.94
2	30.04.2016	28.05.2016	8.362	283.5	12.60
3	30.04.2016	28.05.2016	8.174	252.6	11.23

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/WNo.14/NS /STEEL/2016-17 02.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. N. Shivananda,** # 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.
Name of the Work	:	Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.
Reference	:	BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016
Date of Test	:	02.05.2016
Technical Reference	:	IS: 1786-2008

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Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.25	O.K	O.K

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Job No.: CTCE/BBMP/WNo.14/NS /STEEL/2016-17 02.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. N. Shivananda,** # 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.
Name of the Work	:	Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.
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Technical Reference	:	IS: 1786-2008

CIVIL ENGINEERING TESTING LABORATORY www.civiltechconsultants.com

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	16	1.59	518	561	13.50	O.K	O.K

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Job No.: CTCE/BBMP/WNo.14/NS/CSR-04/015j/CUBE/2016-17 02.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. N. Shivananda,** # 35, 2nd Cross, Defence Colony, Hesaraghatta Main Road, Bagalagunte, Bangalore - 73.
* Name of the work	: Construction and repairs to culverts in Bagalagunte Ward No. 14, BBMP, Bangalore.
Reference	: BBMP/DZ/AEE/TDSD/PR/2016-17 Dated 18.04.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{15}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 02.06.2016

CIVIL ENGINEERING TESTING LABORATORY www.civiltechconsultants.com

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	05.05.2016	02.06.2016	8.219	362.8	16.12
2	05.05.2016	02.06.2016	8.324	389.4	17.31
3	05.05.2016	02.06.2016	8.415	375.2	16.68

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